REMARKS

This is in response to the Office Action mailed on January 5, 2011 and in response to an Examiner interview conducted on April 4, 2011. Claims 1-24 were pending in the Application, and the Examiner rejected all claims. With this amendment, claims 1, 2, 6 and 22 are amended, and the remaining claims are unchanged in the application.

Applicant first wishes to thank the Examiner for extending the courtesy of an interview. In the interview, all independent claims were discussed, and the Examiner suggested submission of a Declaration from Mr. Wuollet. The Declaration is submitted herewith. The Examiner indicated that this response, in conjunction with the Declaration, would overcome the present rejections.

At the bottom of page 2 of the Office Action, the Examiner rejected claims 1 and 6 under 35 U.S.C. §112, first paragraph, based on the language "controlling the cell current by automation...". At the middle of page 3 of the Office Action, the Examiner rejected claims 1 and 6 under 35 U.S.C. §112, second paragraph, for the same reasons. However, in Applicant's last amendment, Applicant eliminated that language from the claims. Applicant pointed out in its last amendment, adequate support for the new language, and that is specifically found at page 8, lines 9-15; page 10, lines 2-12; page 12, lines 23-25; and page 14, lines 14-16 (all citations are to WO 23/062152). Applicant thus submits that the claims are adequately supported by the specification.

At the top of page 3 of the Office Action, the Examiner rejected claims 1, 6 and 22 under 35 U.S.C. §112, first paragraph based on the language "the coaxial pipes defining an uninterrupted, generally cylindrical electrolysis space through which the hydrogen gas raises the floc in the separation tower along a generally linear path...". Applicant respectfully traverses the Examiner's rejection.

Applicant respectfully submits that the specification and drawings are replete with support for this amendment. Specifically, FIG. 1 shows that electrolysis space 5 is generally cylindrical and uninterrupted. Support for the cited language is thus found at page 2, lines 27-29; page 3, lines 11-12; page 5, lines 18-19; page 6, lines 8-10; page 9, line 9; page 4, lines 6-9; and

page 10, lines 19-21. Applicant submits that these citations, in addition to FIG. 1, fully support the claims, as written. However, in order to even more explicitly support the claims, Applicant has added the word "uninterrupted" to the specification. Therefore, Applicant submits that the claims are fully supported.

At the bottom of page 3 of the Office Action, the Examiner rejected claims 1, 3-8 and 10-24 under 35 U.S.C. §103(a) as being unpatentable over Herbst et al. US Patent No. 4,872,959 in view of Haivala US patent No. 5,022,974. Applicant respectfully traverses the Examiner's rejection. Of the rejected claims, claims 1, 6 and 22 are independent claims.

The claims make it clear that the two electrodes define, therebetween, a generally cylindrical and uninterrupted electrolysis space. They also make it clear that the space is configured so that floc can form and be raised within the cell, by hydrogen gas. Of course, if the cell operated by putting the fluid to be treated through a helical path, and particularly one that is generally horizontally oriented, or by continuously injecting into the cell a jet of mixing fluid which serves to mix the fluid in the cell, both of these measures would inhibit the formation of floc, and would inhibit the ability of hydrogen gas to raise floc to the surface for separation. This is supported by Mr. Wuollet's Declaration (see specifically paragraphs 3-5). Yet, the two references cited by the Examiner operate in precisely the ways that inhibit floc formation.

More specifically, Herbst does not teach any type of electrolysis cell within which hydrogen gas can raise floc to the surface to be skimmed off. Instead, Herbst teaches a cell in which water to be treated is injected at the left hand side thereof, and travels through an intentionally formed helical path to the right of the cell and then travels back to the left, again along an intentionally created helical path, and is extracted from the left hand side. There is no generally cylindrical, uninterrupted flow path, through which hydrogen gas could raise a floc. In addition, the way the flow path is specifically designed, the flow of fluid forces the fluid to be treated along the helical paths in a generally horizontal orientation, first in one direction (to the right) and then in the other direction (to the left) all the while circumnavigating the tortuous helical path, and thereby mixing. This would inhibit the formation of floc. Certainly, there is no

generally cylindrical path along which hydrogen gas could raise floc to the surface for separation.

Applicant acknowledges that at column 8, lines 30-33, Herbst does say that hydrogen gas can float floc to the surface where it can be skimmed off. However, it is plain from the context of Herbst that this statement does not refer to the structure of the cell, but instead refers to a filter or settling tank 38. For instance, at column 7, line 42, Herbst states "a discharge portion 36 is provided for discharging the treated liquids. The solids in the treated solution is separated from the liquid with a filter or by retaining it for a period of time in a settling tank or basin 38....". This, in combination with the fact that there is no structure in the cell shown in Herbst where hydrogen could raise any floc, makes it clear that the statement in column 8 of Herbst is talking about removing liquids in some sort of filter or settling tank that is downstream of discharge portion 36.

As with Herbst, Haivala completely fails to teach or suggest any type of cylindrical electrolysis space through which hydrogen gas can raise floc along a generally cylindrical, uninterrupted, flow channel. The entire function of Haivala would preclude or at least inhibit the formation of floc. Haivala discusses injecting a medium through holes at a relatively high velocity to accomplish mixing. Of course, mixing would inhibit the formation of floc.

More specifically, in column 4 of Haivala, Haivala makes it clear that the medium flows as a jet into the electrolysis space causing "effective mixing". See column 4, line 8. In fact, Haivala goes so far as to actually say that the medium is injected in a "jet-like flow" see column 4, line 11. Therefore, Haivala makes it clear that there is no generally cylindrical electrolysis space through which hydrogen gas can raise floc along an uninterrupted path. The "jet spray" used in Haivala, along with the consequent "effective mixing" would substantially inhibit the formation of any floc. The present claims are thus allowable over Haivala for this reason alone.

Further, substantially the entire disclosure of Haivala is directed to parallel plate electrodes. These do not form a cylindrical electrolysis space. Of course, Haivala does make one passing remark that seems to indicate that perhaps the electrodes could be arranged cylindrically. Column 6, lines 31-36. However, simply making a passing remark that the structure could be

completely different than what is disclosed is simply not a teaching sufficient to render the claims obvious. Thus, Applicant submits that, the teaching of Haivala cannot be adequately combined with Herbst in order to render the claims obvious, and the claims are allowable for this reason as well.

Even assuming, arguendo, that Haivala does adequately teach cylindrically arranged, coaxial electrodes (which it does not), Applicant still submits that neither of the references either alone, or in combination, show an electrolysis space which is formed to provide a generally cylindrical, uninterrupted, flow path through which hydrogen gas can raise floc. Any reference to this in Herbst is referring to a downstream separation tank or filter, and not to an electrolysis cell. Similarly, the electrolysis cell in Haivala substantially inhibits the formation of floc by its jets of medium. Thus, neither of the references, either alone or in combination, meet this limitation.

However, the independent claims of the present application have also been amended to specifically indicate that the intermittent washing cycles are performed so that they do not constantly inhibit the formation of floc. This even further distinguishes over the references cited by the Examiner. Herbst does not teach any type of flushing sprays, and Haivala teaches a constant flushing spray. By contrast, the present claims provide a cell in which not only is there a flushing spray, but it is intermittent specifically so that floc can form and be raised for separation within the cell. Applicant thus submits that the independent claims distinguish over the references cited by the Examiner for this reason as well.

More specifically, independent claim 1 specifically includes "using coaxial pipes as electrodes, the coaxial pipes defining an uninterrupted, generally cylindrical electrolysis space in the cell through which the hydrogen gas raises the floc along a generally linear path,... and feeding flush water intermittently, during wash cycles, through the inner electrode pipe by pressure for producing flush water sprays through the holes against inner surface of the outer electrode pipe and, when not during a wash cycle, refraining from producing the flush water sprays to allow the hydrogen gas to raise the floc." Similar limitations are found in claims 6 and 22.

Therefore, Applicant submits that independent claims 1, 6 and 22 are allowable over the references cited by the Examiner. Applicant further submits that dependent claims 2-5, 7-21 and 23-24, which depend either directly or ultimately from the independent claims, are allowable as well. Reconsideration and allowance of claims 1-24 are respectfully requested.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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